The Chromatographic Separation of Rhenium and Tungsten

from tungsten. There are 1 figure, 1 table, and 6 references, 5 of which are Soviet.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moskva (Institute of Geochemistry and Analytical Chemistry Moscow AS USSR imeni V. I. Vernadskiy

SUBMITTED: October 28, 1957

1. Rhenium--Separation 2. Tungsten--Separation 3. Radioisotopes --Applications 4. Chromatographic analysis--Applications

Borisova, L.V.

PHASE I BOOK EXPLOITATION SOV/4443

Akademiya nauk SSSR. Komissiya po analiticheskoy khimii

Metody opredeleniya primesey v chistykh metallakh (Methods of Determining Admixtures In Pure Metals) Moscow, 1960. 411 p. (Series: Its: Trudy, 12) 3,500 copies printed.

Resp. Eds.: A.P. Vinogradov, Academician, and D.I. Ryabchikov, Doctor of Chemical Sciences; Ed. of Publishing House: M.P. Volynets; Tech. Ed.: T.V. Polyakova.

PURPOSE: This collection of articles is intended for chemists, metallurgists, and engineers.

COVERAGE: The articles describe methods for detecting and determining various admixtures and their traces in pure metals. Also discussed are many chemical, physicochemical, electrochemical, spectrochemical and luminescence methods of analyzing materials of high purity. The editors state that these methods have been developed within the last five or six years by various Soviet scientific institutes, and are now widely used in research and factory laboratories of the Soviet Union. No personalities are mentioned. References, mostly Soviet, accompany each article.

Card 4/9

(45)

BORISOVA, L.V.

PHASE I BOOK EXPLOITATION SOV/4443

Akademiya nauk SSSR. Komissiya po analiticheskoy khimii

Metody opredeleniya primesey v chistykh metallakh (Methods of Determining Admixtures In Pure Metals) Moscow, 1960. 411 p. (Series: Its: Trudy, 12) 3,500 copies printed.

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RYABCHIKOV, D.I.; VAYNSHTEYN, E.Ye.; BORISOVA, L.V.; VOLYNETS, M.P.; KOROLEV, V.V.; KUTSENKO, Yu.I.

Spectrochemical method of determining bismuth, cadmium, antimony, tin and lead in metallic tungsten, niobium and tantalum. Trudy Kom. anal. khim. 12:82-93 '60. (MIRA 13:8)
(Tungsten--Analysis) (Niobium--Analysis)
(Tantalum--Analysis)

BORISOVA, L.V. (Moskva)

Fall excursion in the fifth grade. Geog. v shkole 23 no.4:41-46 Jl-Ag '60. (MIRA 13:10)
(Izmaylovo (Moscow Province)--School excursions)

BORISOVA, L.V., RYABCHIKOV, D.I.

"New Spectrophotometric methods for the determination of rhenium."

Report to be submitted for the Intl. Feigl Anniversary Symposium on Analytic Chemistry
Edgaston, Birmingham, Great Britain 9-13 Apr 1962

S/075/62/017/007/006/006
B119/B186

AUTHORS: Ryabchikov, D. I., Borisova, L. V., and Gerlit, Yu. B.

TITLE: Chromatographic separation of rhenium from molybdenum and tungsten by means of mixed eluents on ЭДЭ -10 (EDE-10) anionite

PERIODICAL: Zhurnal analiticheskoy khimii, v. 17, no. 7, 1962, 890 - 892

TEXT: Separation experiments were made with the following eluants: 2 M H_3PO_4 (I); 0.2 M H_3PO_4 + 0.3 M Na_2HPO_4 (II); 0.2 M H_3PO_4 + 0.6 M Na_2SO_4 (III). The ionic strength of the solutions was kept constant. The complete separation and the degree of purity of the Re separated were proved by means of R^{186}, Mo^{99}, and W^{185}, whereby good quantitative results were obtained. 40 - 45 ml of I, 30 - 35 ml of II, and 24 - 25 ml of III were used to alute equal amounts of Re. Best results in Re eluation were from III. There are 4 figures and 3 tables.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moskva (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy AS USSR, Moscow)

Card 1/2

RYABCHIKOV, D.I.; BORISOVA, L.V.

Rhenium - thiourea complex compounds. Dokl.AN SSSR 145 no.2:355-357 Jl '62. (MIRA 15:7)

1. Institut geokhimii i analiticheskoy khimii imeni V.I.Vernadskogo AN SSSR. Predstavleno akademikom A.P.Vinogradovym.
(Rhenium compounds) (Urea)

RYABCHIKOV, D.I.; BORISOVA, L.V.; GERLIT, Yu.B.

Chromatographic separation of rhenium from molybdenum and tungsten by means of mixed eluents on the EDE-10 anion exchanger. Zhur.anal.khim. 17 no.7:890-892 O '62. (MIRA 15:12)

1. V.I.Vernadskiy Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, U.S.S.R., Moscow.
(Rhenium--Analysis) (Chromatographic analysis)

L 17103-63 EWP(q)/EWT(m)/BDS AFFTC RM/JD/JG

ACCESSION NR: AP3004227 S/0032/63/029/007/0785/0787

AUTHORS: Ryabchikov, D. I.; Borisova, L. V.

57
56

TITLE: Determination of rhenium in alloys by means of diphenylcarbazide

SOURCE: Zavodskaya laboratoriya, v. 29, no. 7, 1963, 785-787

TOPIC TAGS: rhenium, alloy, diphenylcarbazide

ABSTRACT: An extractive-photometric method for the determination of rhenium is proposed (with interference only from Cu, V, Se, and Mo). The method does not require preliminary separation of rhenium from Cd, Ag, Bi, Zn, divalent Mn, Al, Fe, monovalent Au, trivalent Cr, Wo, Ti, Co, Ni, Zr, and Nb. The method is based on the reaction of rhenium with diphenylcarbazide in 8-normal hydrochloric acid, the optical density of the resulting substance being estimated in a spectrophotometer at 540 millimicrons with an accuracy of 5%. The procedure used for a tungsten alloy involves digesting 5-100 mg of the sample under gentle heating for 10-15 minutes with 5-10 ml of ammonia solution (under a drop-by-drop addition of 30% hydrogen peroxide until completely clear). The subsequent procedure involves drying, treatment with hydrochloric acid and dissolving in NaOH. For alloys containing Cr, Co, Al, Fe, Ni, and Ti the process requires digestion with HCl and additions of either

Card 1/2

L 17103-63
ACCESSION NR: AP3004227

hydrogen peroxide or nitric acid. The diphenylcarbazide reaction is conducted in separatory funnels containing 2 ml of 10-normal HCl, to which are added 0.5 ml of the obtained alloy solution, 2 ml of 0.1-molar diphenylcarbazide solution in acetone, and 5-7 ml of chloroform. The purple coloration which develops after shaking is located in the chloroform phase. Orig. art. has: 1 table.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo (Institute of Geochemistry and Analytical Chemistry)

SUBMITTED: 00 DATE ACQ: 02Aug63 ENCL: 00

SUB CODE: CH NO REF SOV: 003 OTHER: 001

Card 2/2

RYABCHIKOV, D.I.; BORISOVA, L.V.

Interaction of perrhenates with diphenylcarbazide and diphenylcarbazone. Zhur.anal.khim. 18 no.7:851-855 Jl '63. (MIRA 16:11)

1. V.I. Vernadskiy Institute of Geochemistry and Analytical Chemistry Academy of Sciences, U.S.S.R., Moscow.

L 23628-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG/MLK

ACCESSION NR: AT5002790 S/0000/64/000/000/0242/0244

AUTHOR: Borisova, L. V. (Engineer); Yun Gen Sen

B+1

TITLE: Determination of rhenium in alloys, concentrates, and ores by means of the EDE-10 anion exchange resin

SOURCE: Vsesoyuznoye soveshchaniye po probleme reniya, 2d, Moscow, 1962. Reniy (Rhenium); trudy soveshchaniya. Moscow, Izd-vo Nuaka, 1964, 1964, 242-244

TOPIC TAGS: rhenium determination, rhenium refining, rhenium ore analysis, rhenium alloy, column chromatography, anion exchange resin, molybdenum alloy

ABSTRACT: Using the anion exchange resin EDE-10, which has been shown to be capable of separating rhenium from molybdenum, the authors employed a 0.6 x 20 cm column for the analysis of an Mo-Re alloy containing a large percentage of rhenium, and a 0.9 x 30 cm column for the analysis of concentrates and ores, in which the amount of molybdenum was considerable and for which the first column would have been too small. H_3PO_4 was used as the eluent. It was shown that this chromatographic method can be successfully employed to separate and determine rhenium in alloys, concentrates, and ores. The determinable quantities of

Card 1/2

L 23628-65

ACCESSION NR: AT5002790

rhenium range from high percentages to 10^{-3} - 10^{-4}%. Orig. art. has: 1 figure and 6 tables.

ASSOCIATION None

SUBMITTED: 05Aug64 ENCL: 00 SUB CODE: IC, GC

NO REF SOV: 004 OTHER: 000

Card 2/2

SAVITSKIY, Ye.M., doktor khim. nauk, otv. red.; RYABCHIKOV, D.I., doktor khim. nauk, red.; BIBIKOVA, V.I., doktor tekhn. nauk, red.; TYLKINA, M.A., kand. tekhn. nauk, red.; POVAROVA, K.B., kand. tekhn. nauk, red.; BORISOVA, L.V., inzh., red.; MAKARENKO, M.G., red.

[Rhenium; transactions] Renii; trudy. Moskva, Nauka, 1964. 257 p. (MIRA 18:1)

1. Vsesoyuznoye soveshchaniye po probleme reniya. 2d, 1962.

RYABCHIKOV, D.I., otv. red.; ALIMARIN, I.P., red.; PALEY, P.N., red.; BORISOVA, L.V., red.; ZOLOTOV, Yu.A., red.; SENYAVIN, M.M., red.; KARYAKIN, A.V., red.; VOLYNETS, M.P., re

[Modern methods of analysis; methods of studying the chemical composition and structure of substances. On the seventieth birthday of Academician A.P.Vinogrado] Sovremennye metody analiza; metody issledovaniia khimicheskogo sostava i stroeniia veshchestv. K semidesiatiletiiu akademika A.P.Vinogradova. Moskva, Nauka, 1965. 333 p. (MIRA 18:7)

1. Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii. 2. Chlen-korrespondent AN SSSR (for Ryabchikov).

KAMZOLKINA, N.B.; LUKASHOVA, N.I.; ZAKHAROVA, N.S.; BORISOVA, L.V.

Use of cellular cultures for the determination of antitoxin content in antidiphtheria sera. Zhur. mikrobiol., epid. i immun. 42 no.11:122-123 N '65. (MIRA 18:12)

1. Submitted April 14, 1965.

L 58314-65 EWT(1)/EWA(b)-2/EWA(j) JK
ACCESSION NR: AP5013794 UR/0016/65/000/005/0080/0085
576.852.23.097.093.3

22
21
B

AUTHOR: Kamzolkina, N. B.; Lukashova, N. I.; Borisova, L. V.

TITLE: Titration of diphtheria toxin in cell cultures. Report II. The cytopathic effect in the titration of diphtheria toxin

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 5, 1965, 80-85

TOPIC TAGS: diphtheria toxin, colorimetry, titrimetry, tissue culture, cytology

ABSTRACT: The author reports the use of the cytopathic effect for determining the titers of diphtheria toxins of the same series as those investigated in a color test. He has studied HeLa, SOTs, SP, and guinea pig macrophages and in addition human A_1 transplantable amniotic cells and fibroblasts of 10- to 13-day-old chick embryos. The HeLa, SOTs, SP, A_1 and fibroblasts of trypsinized chick embryos were found to be equally sensitive to the cytopathic effect of diphtheria toxin. The minimum cytopathogenic doses of the latter for these cells ranged from 0.003 to 0.07 MLD, depending on the series of toxins used. The cytopathic effect proved to

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L 58314-65
ACCESSION NR: AP5013794

be a more sensitive, simple, and convenient method of titrating diphtheria toxins than the color test. The incubation period in using the cytopathic effect for titrating diphtheria toxins varied with the dose of toxin and the cell strain. The SP cells and chick embryo fibroblasts had the longest incubation period. Orig. art. has: 1 figure, 1 table.

ASSOCIATION: Moskovskiy institut vaktsin i syvorotok im. Mechnikova (Moscow Institute of Vaccines and Sera)

SUBMITTED: 07Feb64 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 004

Card 2/2

BORISOVA, M.
"Institute of Physics at the Bulgarian Academy of Sciences" (p.97) PRIRODA
(Bulgaraska Akademiia Na Naukite) Sofiya Vol 3 No 1 Jan/Feb 1954

SO: East European Accessions List Vol 2 No 7 Aug 1954

BORISSNKOV, Ye.P.; BORISOVA, L.Ye.

Numerical forecast of mean monthly anomalies of air temperature by the statistical method. Trudy AANII 262:185-192 '65.
(MIRA 19:1)

BORISOVA, M.

SURNAME, Given Names

Country: Bulgaria

Academic Degrees: [not given]

Affiliation: Senior Nurses at the Scientific Research Institute of Pediatrics (Nauchno-Izsledovatelski Institut po Pediatriya)

Source: Sofia, Sreden Meditsinski Rabotnik, No 7, 1961, pp 38-40

Data: "The Nurse's Role in the Performance of Blood Transfusions to Young Children"

Authors:
BORISOVA, M.
MINCHEVA, R.

GPO 981643

BORISOVA, M. A.

BORISOVA, M. A. - "The dependence of nicotinic-acid metabolism on the clinical course of typhoid and on the state of protein metabolism in sintomycin therapy". Moscow, 1955. First Moscow Order of Lenin Medical Inst. (Dissertation for the degree of Candidate of Medical Sciences).

SO: Knizhnaya Letopis' No. 46, 12 November 1955. Moscow

✓

COUNTRY : USSR
CATEGORY : Pharmacology, Toxicology. Chemotherapeutic Preparations. Antibiotics
ABS. JOUR. : RZhBiol., No. 12 1958, No. 56809

AUTHOR : Borisova, M.A.
INST. : Stalin Institute of Postgraduate Medicine
TITLE : The Treatment of Typhoid-Paratyphoid Diseases with Antibiotics

ORIG. PUB. : Sb. Tr. Stalinsk. In-t Usoversh. Vrachey, 1957, Vol.27, 135-140
ABSTRACT : No abstract.

Card: 1/1

BORISOVA, M.A., kand.med.nauk

Studying nicotinic acid metabolism in typhoid fever treated with synthomycin. Terap.arkh. 29 no.2:70-76 '57. (MIRA 11:1)

1. Iz kafedry infektsionnykh bolezney (zav. - doktor meditsinskikh nauk K.V.Bunin) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

(CHLORAMPHENICOL, therapeutic use,
typhoid fever, eff. on nicotinic acid metab. (Rus))
(NICOTINIC ACID, metabolism,
in typhoid fever, eff. of chloramphenicol ther. (Rus))
(TYPHOID FEVER, therapy,
chloramphenicol, eff. on nicotinic acid metab. (Rus))

BORISOVA, M.A.

Polyglucin as an antishock substance in major surgery. Akt.vop.perel. krovi no.7:345-347 '59. (MIRA 13:1)

1. Gospital'naya khirurgicheskaya klinika Ivanovskogo Gosudarstvennogo meditsinskogo instituta (zav. klinikoy - prof. P.M. Maksimov.
(DEXTRAN) (SHOCK)

BORISOVA, M.A.

Studies on nicotinic acid metabolism in patients with typhoid fever treated with antibiotics (synthomycin and levomycetin) associated with a diet rich in proteins. Vop. pit. 19 no.3:42-47 My-Je '60. (MIRA 14:3)

1. Iz kafedry infektsionnykh bolezney (zav. - prof. K.V.Bunin) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

(TYPHOID FEVER) (ANTIBIOTICS)
(NICOTINIC ACID) (PROTEINS)

CHERNAVINA, I.A.; BORISOVA, M.A.

Effect of sodium azide on the virescence process of oat seedlings. Nauch. dokl. vys. shkoly; biol. nauki no.1:149-153 '62. (MIRA 15:3)

1. Rekomendovana kafedroy fiziologii rasteniy Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(PLANTS, EFFECT OF SODIUM AZIDE ON)
(OATS)

BORISOVA, M.A.

Condition of the heart in tick-borne encephalitis patients and convalescents based on electrocardiographic data. Ter. arkh. 35 no.4:89-92 Ap'63 (MIRA 17:1)

1. Iz kafedry infektsionnykh bolezney (zav. M.M. Lyskovtsev, konsul'tant prof. A.A. Savel'yev) Novokuznetskogo gosudarstvennogo instituta dlya usovershenstvovaniya vrachey.

BORISOVA, M.A., kand. med. nauk

Clinical and biochemical comparisons in the study on the copper content and ceruloplasmin activity of the blood serum in typhoid fever, acute dysentery and Botkin's disease. Sov. med. 27 no.6: 45-51 Je '64. (MIRA 18:1)

1. Kafedra infektsionnykh bolezney (zav. - prof. V.M. Domrachev) Krymskogo meditsinskogo instituta, Simferopol'.

BORISOVA, M.A., kand.med.nauk

Clinical significance of the dynamics of the indices of metabolism of trace elements, enzymes, and vitamins in epidemic hepatitis. Sov.med. 28 no.12:42-47 D '65.
(MIRA 18:12)

1. Kafedra infektsionnykh bolezney (zav. - prof. V.M. Domrachev) Krymskogo meditsinskogo instituta, Simferopol'. Nauchnyy konsul'tant - zav. kafedroy infektsionnykh bolezney I Moskovskogo ordena Lenina meditsinskogo institu a imeni I.M.Sechenova prof. K.V.Bunin.

TIMAKOV, V.D.; SKAVRONSKAYA, A.G.; BORISOVA, M.B.; ZAMCHUK, L.A.

Antigenic properties of deoxyribonucleic acid in Salmonella typhimurium No.70. Zhur. mikrobiol., epid. i immun. 40 no.1: 5-13'63. (MIRA 16:10)

1. Iz instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

BORISOVA, M.B., inzhener.

Meeting at the All-Union Scientific Research Institute of Petroleum Industry on the results of scientific research work in the field of carbonized construction materials. Biul.stroi.tekh. 10 no.10:29 My '53.
(MLRA 6:8)

1. VNIIStroyneft'. (Carbonization) (Building materials)

BORISOVA [redacted], M.G.

37-11-6/18

AUTHOR: Nikol'skiy, A.P.

TITLE: Regarding N. P. Ben'kova's and M. G. Borisova's article "Index K Based on Data from the Pavlovsk Magnetic Observatory for the Years 1916-1939" (Po povodu stat'i N.P. Ben'kovoy i M. G. Borisovoy "Indeks K po dannym Pavlovskoy magnitnoy observatorii za 1916-1939 gg.")

PERIODICAL: Trudy Nauchno-issledovatel'skogo instituta zemnogo magnetizma, 1957, Nr 11(21), pp. 111-118 (USSR)

ABSTRACT: This is a review on the frequency distribution of magnetic activity and the daily, yearly and 11-year cycles. The following authors are mentioned: Kalitina, G.N., Mishin, V.M., and Kozik, S. M. There are 2 figures and 4 references, all USSR.

AVAILABLE: Library of Congress

Card 1/1

TSUKERMAN, I.S.; MILONOV, N.P.; ROGOZHIN, G.V.; BOR[illegible], A.G.

Prospects for the use of supports made of new materials in the Kizel Basin. Nauch. trudy PermNIUI no.6:103-114 '64.
(MIRA 18:2)

VANCHIKOV, A.N., doktor tekhn.nauk; GORINA, L.I., inzh.; BORISOVA, M.I., inzh.

Increasing packages on P-76 spinning machines. Tekst.prom. 19 no.2:14-19 F '59. (MIRA 12:5)
(Spinning machinery)

TRAKOVSKAYA, L.I.; IVANOVA, M.I.; BORISOVA, M.I.

Investigating wear-resistant travellers for spinning machines with high linear velocities. Tekst.prom. 19 no.10:39-42 O '59. (MIRA 13:1)
(Spinning machinery)

BORISOVA, M.I., nauchnyy sotrudnik; VLADIMIROV, B.M., nauchnyy sotrudnik; AL'TMAN, A.B.; VALAKINA, V.M.; MEMELOV, V.L.

Self-lubricating ceramic metal rollers made with graphitic iron. Tekst.prom.22 no.3:80-82 Mr '62. (MIRA 15:3)

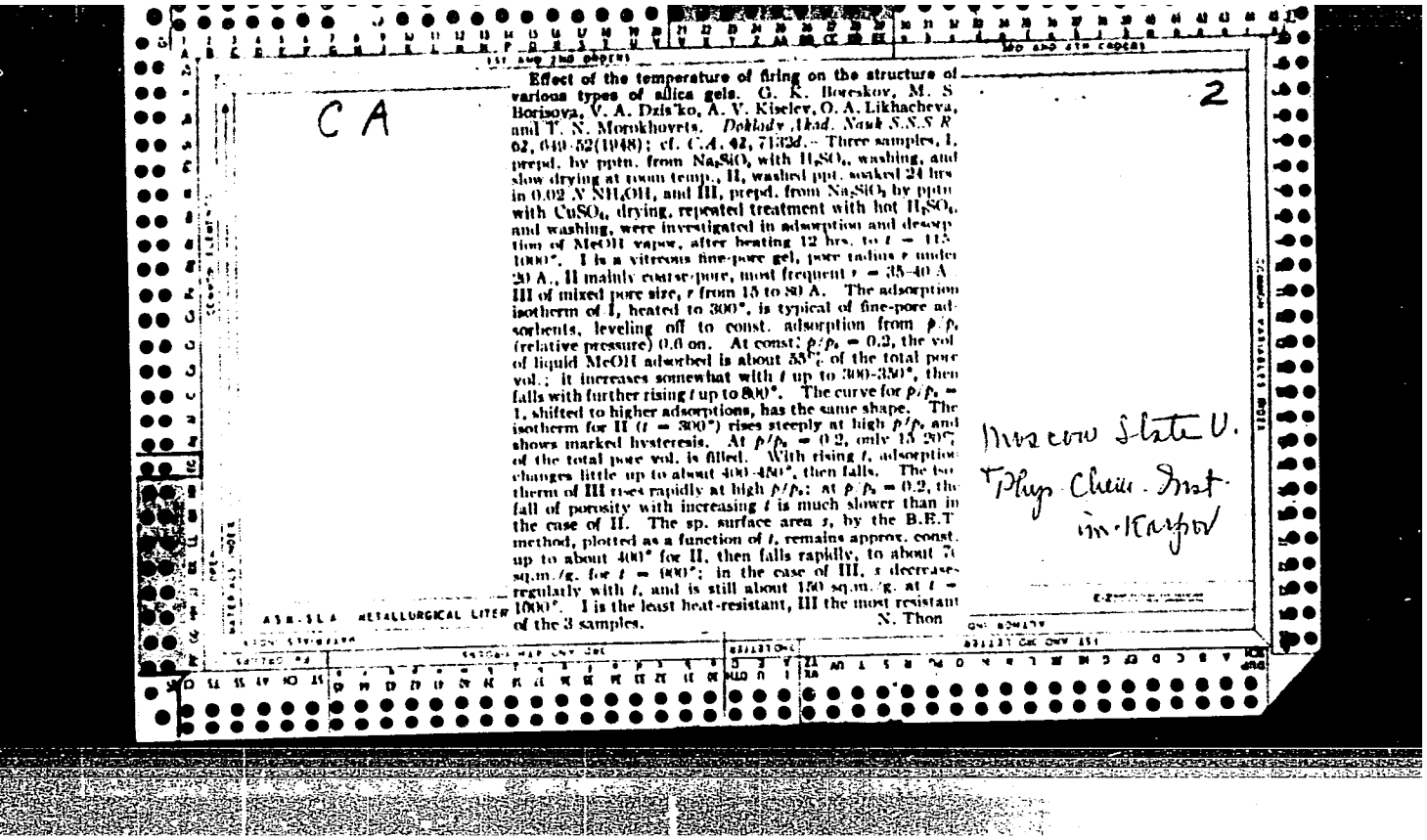
1. TSentral'nyy nauchno-issledovatel'skiy institut khlopchatobumazhnoy promyshlennosti (TsNIKhBI) (for Borisova, Vladimirov).
2. Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki (VNIIEM) (for Al'tman, Valakina, Memelov).
(Spinning machinery)

BORISOVA, M.K. DECEASED ~~1961~~ 1962

c1960

see ilc

atmosphere



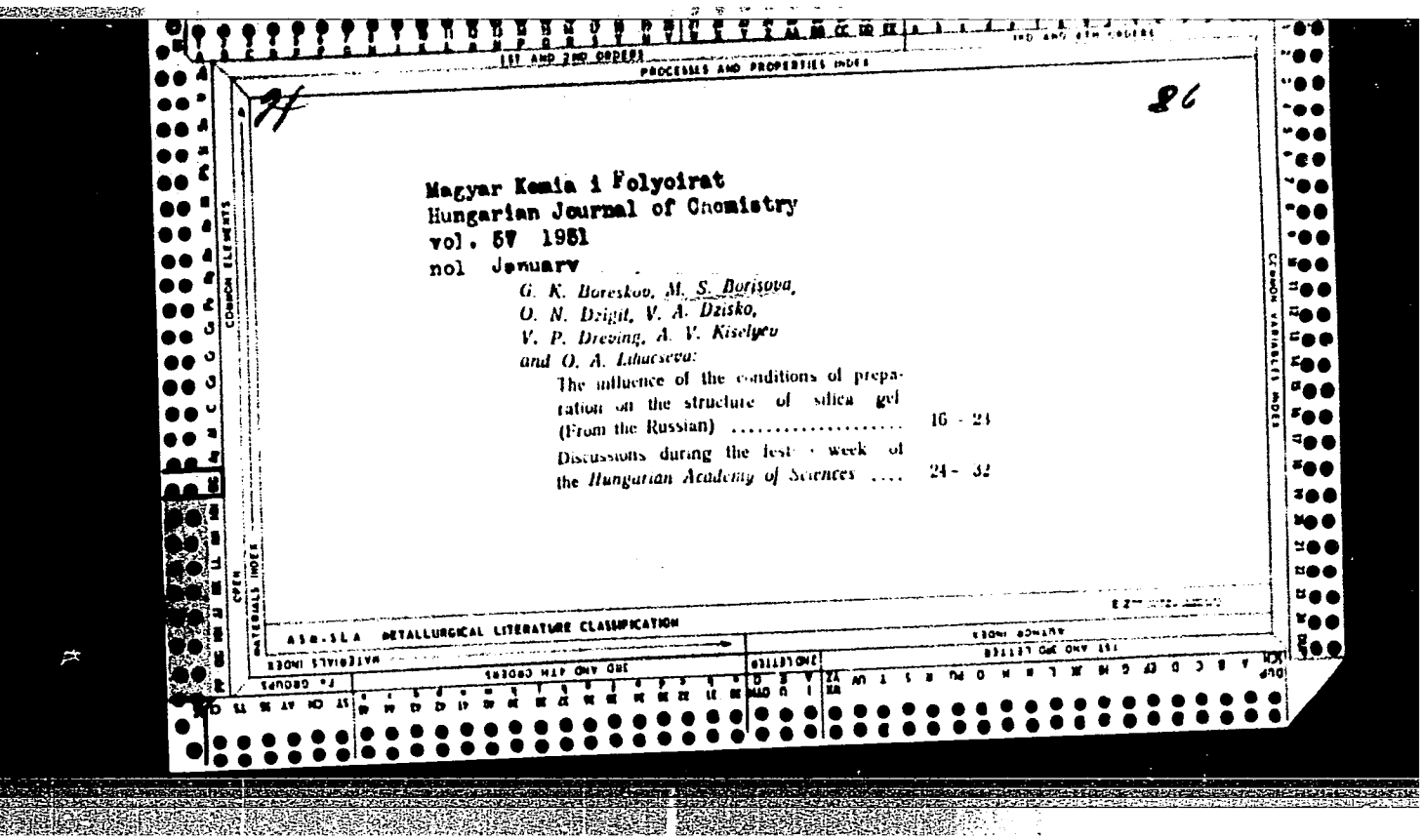
CA

2

Effect of the temperature of firing on the structure of various types of silica gels. G. K. Boreskov, M. S Borisova, V. A. Dzis'ko, A. V. Kiselev, O. A. Likhacheva, and T. N. Morokhovets. *Doklady Akad. Nauk S.S.S.R* 62, 649-52(1948); cf. *C.A.* 42, 7133d.—Three samples, I, prepd. by pptn. from Na_2SiO_3 with H_2SO_4, washing, and slow drying at room temp., II, washed ppt. soaked 24 hrs in 0.02 *N* NH_4OH, and III, prepd. from Na_2SiO_3 by pptn with $CuSO_4$, drying, repeated treatment with hot H_2SO_4, and washing, were investigated in adsorption and desorption of MeOH vapor, after heating 12 hrs. to t = 115-1000°. I is a vitreous fine-pore gel, pore radius r under 20 A., II mainly coarse-pore, most frequent r = 35–40 A. III of mixed pore size, r from 15 to 80 A. The adsorption isotherm of I, heated to 300°, is typical of fine-pore adsorbents, leveling off to const. adsorption from p/p_s (relative pressure) 0.6 on. At const. p/p_s = 0.2, the vol of liquid MeOH adsorbed is about 55% of the total pore vol.; it increases somewhat with t up to 300-350°, then falls with further rising t up to 800°. The curve for p/p_s = 1, shifted to higher adsorptions, has the same shape. The isotherm for II (t = 300°) rises steeply at high p/p_s and shows marked hysteresis. At p/p_s = 0.2, only 15-20% of the total pore vol. is filled. With rising t, adsorption changes little up to about 400-480°, then falls. The isotherm of III rises rapidly at high p/p_s; at p/p_s = 0.2, the fall of porosity with increasing t is much slower than in the case of II. The sp. surface area s, by the B.E.T. method, plotted as a function of t, remains approx. const. up to about 400° for II, then falls rapidly, to about 70 sq.m./g. for t = 600°; in the case of III, s decreases regularly with t, and is still about 150 sq.m./g. at t = 1000°. I is the least heat-resistant, III the most resistant of the 3 samples.

N. Thon

Moscow State U. Phys. Chem. Inst. im. Karpov



Magyar Kemia i Folyoirat
Hungarian Journal of Chemistry
vol. 57 1951
no1 January

BORISOVA, T. S.

(U)

Effect of sodium hydroxide on the catalytic activity of aluminum oxide in relation to the decomposition of ethyl alcohol. G. K. Boreskov, V. A. Dzis'ko, and M. S. Borisova (L. Yu. Karpov Phys.-Chem. Inst., Moscow). *Zhur. Fiz. Khim.* 27, 1172-5(1953); cf. *C.A.* 42, 21*h*.—The progressive poisoning of Al_2O_3 catalysts by NaOH was investigated. Samples of Al_2O_3 prepd. in 4 different ways were made to absorb various amts. of NaOH from soln., then dried and kept 1 hr. at 450°. The catalytic activity of each sample was detd. from the amt. of C_2H_4 produced when EtOH was passed over it at 420°. The total adsorption surface was detd. by means of a sorption balance with MeOH as the adsorbate. Sp. gr., vol. of micropores in cc./g., total surface in sq. m./g. and sq. m./cc., and total and specific catalytic activities of each of the initial samples are tabulated. The rate const. for the formation of C_2H_4 is shown graphically as a function of the amt. of adsorbed NaOH in millimoles/g. for each type of sample. The relative rate consts. are plotted as functions of the no. of millimoles of adsorbed NaOH per sq. cm. of adsorbing surface. The pore size and total surface of Al_2O_3 are unchanged by the NaOH treatment. The catalytic activity decreases as the amt. of adsorbed NaOH increases, most rapidly for the smallest amts. of NaOH. This probably corresponds to adsorption of NaOH mols. on active groups of the surface. It is concluded that the active regions comprise 5–10% of the total surface of the Al_2O_3 samples. The no. of active centers per unit surface depends on the purity of the sample and not on the manner of its prepn. J. W. L., Jr.

BORISOVA, M. S.

9

Chemical Abstracts
May 25, 1954
General and Physical
Chemistry

Effect of ignition temperature on the extent of surface and on the water content of the oxides of aluminum and magnesium. G. K. Boreskov, V. A. Dzis'ko, and M. S. Borisova (L. Ya. Karpov Phys. Chem. Inst., Moscow). *Zhur. Fiz. Khim.* 27, 1175–80 (1953). Cf. C.A. 47, 3572.—In an investigation of the mechanism of catalysis in oxides the water content of Al_2O_3 and MgO was detd. The temp. of a sample of Al_2O_3 in vacuum was raised from 100 to 1200° during a 168-hr. period. The evolved H_2O was weighed by means of a sorption balance. The Al_2O_3 contained 17, 4.5, 1.1, and 0% H_2O at 20, 299, 600, and 1200°, resp. The surface was 245, 235, 127, and 10.5 sq. m. per g. at 450, 800, 1000, and 1200°, resp. On similar treatment $Mg(OH)_2$ was entirely converted to MgO below 370°; the rate of conversion was max. at 290°. The H_2O content and the surface of MgO at 400, 700, and 1000° were 2.9, 0.38, and 0.01%, resp., and 347, 86, and 11 sq. m. per g., resp. In both oxides, the water appears to be held in solid soln. above 400°. Exptl. data are tabulated and graphed. J. W. L., Jr.

USSR/ Chemistry Physical chemistry

Card : 1/1

Authors : Boreskov, G. K., Dzis'ko, V. A., and Borisova, M. S.

Title : Porous structure of catalysts and its effect on their reaction selectivity

Periodical : Zhur. fiz. khim. 28, Ed. 6, 1055 - 1066, June 1954

Abstract : Two cases of series reactions of the first order were investigated to determine the effect of porous structure of catalysts on their reaction selectivity. The rate of diffusion transfer, toward the internal surface of the catalyst grains and its effect on reaction selectivity, was also considered. The selectivity dependence upon the rate of diffusion was determined by criteria expressing the relation between the rate of chemical conversion and diffusion transfer for the basic substance and intermediate product. Four USSR references. Graphs.

Institution : The L. Ya. Karpov Physico-Chemical Institute, Moscow

Submitted : August 18, 1953

S/195/60/001/001/005/007
B015/B060

5.1190

AUTHORS: Dzis'ko, V. A., Borisova, M. S.

TITLE: Effect of the Acidity of Catalysts on Their Catalytic Activity I. Polymerization of Isobutylene

PERIODICAL: Kinetika i kataliz, 1960, Vol. 1, No. 1, pp. 144-152

TEXT: The authors studied the relationship between the acidity and the catalytic activity of the following oxide catalysts: $ZrO_2 \cdot SiO_2$, $Al_2O_3 \cdot SiO_2$, $B_2O_3 \cdot Al_2O_3$, $MgO \cdot SiO_2$, and H_3PO_4 on SiO_2. The acidity and the number of acid parts were determined by using the indicator method and eight different indicators with pK from + 6.8 to -8.2 (Table 1). The catalyst samples investigated were hydrated under standard conditions. Pure and mixed oxide catalysts were tested (Table 2), and it was found that the maximum acidity was not dependent on the concentration of the acid component in the mixed catalyst. The acidity function H_o varied from +4 to -8.2. The effect of acidity on the catalytic activity was investigated in the range from H_o=-3 to -8 on the polymerization of

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Effect of the Acidity of Catalysts on Their Catalytic Activity I. Polymerization of Isobutylene

S/195/60/001/001/005/007
B015/B060

isobutylene in a circulation apparatus (Fig. 3) at a circulation rate of about 800 l/h, at 150°C, and a partial isobutylene pressure of about 300 torr. The experimental results obtained (Table 3) show that with a variation of acidity by five orders of magnitude, the dimerization rate varies by the fivefold only. The degree of dimerization (with respect to isobutylene) amounts to 1.6 on silicon zirconium- and alumosilicate catalysts at 150°C. This low dependence of the reaction rate on acidity shows that the isobutylene adsorbed on the catalyst surface is almost completely "protonized" (Table 4). A comparison with data from publications concerning the dimerization of isobutylene on phosphoric acid films leads to the assumption that the "protonization" of the adsorbed isobutylene takes place more readily than that of the dissolved one.
G. K. Boreskov is finally thanked for his discussions. B. A. Kazanskiy, M. I. Rozengard, and N. M. Chirkov are mentioned in the text. There are 4 figures, 4 tables, and 13 references: 7 Soviet, 3 US, 2 British, and 1 French.

82655

Effect of the Acidity of Catalysts on Their Catalytic Activity I. Polymerization of Isobutylene

S/195/60/001/001/005/007
B015/B060

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute imeni L. Ya. Karpov)

SUBMITTED: December 30, 1959

Card 3/3

38707

S/598/62/000/007/039/040
D217/D307

12.1285

AUTHORS: Belan, N. I., Idel'chik, B. M., Borisova, M. S. and Chikurova, A. A.

TITLE: Investigating titanium alloy AT6 (AT6) for its suitability as material for working wheels of supercharges operating in aggressive media

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 7, Moscow, 1962. Metallokhimiya i novyye splavy, 288-293

TEXT: Forgings of the alloy AT6, containing 5.8 wt-% Al and 1.1% Cr + Fe + Si + B, were studied. The mechanical properties of the as-received material were tested on probes from the surface and from the central portion of the forging. In order to choose the optimum heat treatment of manufactured components and to elucidate the influence of annealing on the change in mechanical properties of the alloy, two heat treatment procedures were tried out. One of them, recommended by the Institute of Metallurgy AS USSR, con-

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Investigating titanium alloy ...

sists in heating to 850°C, soaking at that temperature for 1 hour and cooling in air. The other consisted in heating to 840°C, soaking at that temperature for 1 hour and furnace-cooling to 600°C, followed by cooling in air. The alloy was also tested for its corrosion resistance. It was found that the alloy in the forged condition possesses a high proof stress, both at the surface and in the center of the forgings, high toughness and a satisfactory plasticity. Heat treatment of the alloy at 840°C with subsequent air cooling increases the impact resistance somewhat, without affecting the original strength and plasticity. Furnace-cooling from 840°C to 600°C leads to a slight reduction in percentage elongation. The alloy did not exhibit any tendency to stress corrosion cracking during testing with application of a tensile stress of 70 kg/mm^2 for 750 hours at room temperature in water saturated with H_2S. Also, the general corrosion resistance of the alloy in water saturated with H_2S was found to be high. On bringing the alloy in contact with the steel 1Kh18N9T (1Kh18N9T) with an area ratio of 1:1, the corrosion resistance of the steel in H_2S-saturated water de-

creased somewhat, but still remained at a high level. Under conditions of short-term testing (700 hours) in hydrogen at 100°C and a pressure of 60 atm, no tendency to hydrogen embrittlement was observed. There are 4 figures and 3 tables.

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DZIS'KO, V.A.; BORISOVA, M.S.; KOTSARENKO, N.S.; KUZNETSOVA, E.V.

Effect of the acidity of oxide catalysts on their catalytic activity. Part 2: Dehydration of isopropyl alcohol. Kin.i kat. 3 no.5:728-733 S-O '62. (MIRA 16:1)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR.
(Isopropyl alcohol) (Dehydration (Chemistry))
(Catalysis)

BORISOVA, M.S.; DZIS'KO, V.A.; CHEREDNIK, Ye.M.

Effect of the acidity of oxide catalysts on their catalytic activity. Part 3: Dimerization of propylene. Kin.i kat. 3 no.5:734-741 S-O '62. (MIRA 16:1)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR i Fiziko-khimicheskiy institut imeni Karpova.
(Propene) (Polymerization) (Catalysis)

BORISOVA, M.S.; DZIS'KO, V.A.; IGNAT'YEVA, L.A.; TIMOFEYEVA, L.N.

Acidity of hydroxyl groups of oxide catalyst surfaces studied by means of infrared spectroscopy. Kin. i kat. 4 no.3: 461-466 My-Je '63. (MIRA 16:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, fizicheskiy fakul'tet i Fiziko-khimicheskiy institut imeni Karpova.

(Catalysts) (Hydroxyl group)
(Spectrum, Infrared)

ACCESSION NR: AT4007056 S/2598/63/000/010/0322/0331

AUTHOR: Belan, N. I.; Borisova, M. S.; Idel'chik, B. M.; Chikurova, A. A.

TITLE: Titanium alloys AT-3, AT-4, AT-6 and VT-3-1 as materials for compressor discs operating in various aggressive media

SOURCE: AN SSSR. Institut metallurgii. Titan i yego splavy*, no. 10, 1963. Issledovaniya titanovy*kh splavov, 322-331

TOPIC TAGS: titanium alloy, titanium alloy property, elevated temperature property, subzero temperature property, AT-3 titanium alloy, AT-4 titanium alloy, AT-6 titanium alloy, VT-3-1 titanium alloy, titanium alloy corrosion, titanium alloy stress corrosion, titanium aluminum chromium alloy, silicon containing alloy, iron containing alloy, boron containing alloy, titanium alloy corrosiun resistance

ABSTRACT: The possibility of using titanium-base alloys for compressor runner discs operating in air and aggressive media has been investigated. As shown in Table 1 of the Enclosure test specimens of alloys AT-3, AT-4, AT-6, and BT-3-1 have been used, and their mechanical properties, thermal stability, compatibility with aggressive

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ACCESSION NR: AT4007056

media, and galvanic action with steels have been investigated under various conditions. It has been found that: (1) Optimum annealing has practically no influence on the original mechanical properties of alloys AT-3, AT-4, and AT-6. (2) Short-time tensile strength of alloys AT-3, AT-4, AT-6, and BT-3-1 decreases with the increase of temperature up to 400 C and ductility increases. (3) Impact resistance decreases considerably at low temperatures, particularly at -80 C for AT-4, at -40 C for AT-6, and below -80 C for BT-3-1; however, even at the lowest test temperature of -180 C, the lowest impact resistance is 2-3 $\frac{kg\ m}{cm^2}$. (4) Heating of alloys AT-3, AT-4, AT-6, and BT-3-1 for 3700 hours at 200 C has no influence on mechanical properties. Heating of alloys AT-4, AT-6, and BT-3-1 for 9500 hours at 400 C considerably reduces plasticity and impact strength, but increases hardness and tensile strength. (5) At room temperature alloys AT-3, AT-4, and BT-3-1 have high corrosion resistance to a saturated aqueous solution of hydrogen sulfide, to 5% hydrochloric acid solution, and to an "industrial" atmosphere containing 0.1% SO_2 and 0.5% CO_2 at 100% relative humidity. Coupling of the alloys with steels of the type 1X 18H9T and X 17H2 in saturated aqueous solution of hydrogen sulfide and with steels 40X and 1X 18H9T in an "industrial" atmosphere barely reduces the corrosion resistance of the steels. (6) At room temperature the corrosion resistance of alloys AT-3,

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ACCESSION NR: AT4007056

AT-4, and BT-3-1 to 10% hydrochloric acid solution is satisfactory. (7) At room temperature alloys AT-3, AT-4, and BT-3-1 have not shown a tendency to corrosion cracking under simultaneous action of tensile stress (80% of yield) and an aggressive medium: (a) during 500 hours in saturated aqueous solution of hydrogen sulfide; (b) during 1200 hours in 5% hydrochloric acid solution. (8) At room temperature alloys AT-4 and BT-3-1 have not shown a tendence to corrosion cracking during 1200 hours in 30% nitric acid solution under simultaneous action of tensile stress (60% of yield). (9) At room temperature alloys AT-3, AT-4, and BT-3-1 have indicated a tendency to corrosion cracking in 10% hydrochloric acid solution under simultaneous action of tensile stress (80% of yield). (10) Alloys AT-3, AT-4, and BT-3-1 have shown a tendency to absorb atomic hydrogen at conditions of electrolysis at 45C; simultaneous action of tensile stress (60% of yield) during the process of hydrogen absorption leads to the brittle fracture of specimens after a relatively short time (20-50 hours). Orig art. has: 10 tables.

ASSOCIATION: Institut Metallurgii AN SSSR (Metallurgical Institute AN SSSR)

SUBMITTED: 00 DATE ACQ: 27Dec63 ENCL: 01

SUB CODE: MM NO REF SOV: 000 OTHER 000

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ACCESSION NR: AT4007056

ENCLOSURE: 01

Table 1 — Chemical composition, dimensions and number of tested forging billets of titanium alloys AT-3, AT-4, AT-6, and BT-3-1.

Alloy	Composition, % (*)							Dimensions, mm		Number of tested billets
	Al	Cr	Mo	Si	Fe	B	Σ Cr, S, Fe	dia.	height	
AT-3	2.8	0.30	-	0.23	0.51	0.01	1.0	430	110	1
AT-4	4.69	0.80	-	0.34	0.26	0.01	1.4	430	95	2
AT-6	5.52	0.71	-	0.64	0.29	0.01	1.6	430	95	1
BT-3-1	5.41	1.9	2.34	0.06	0.16	-	-	480	120	2

* Note: The rest is titanium

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ACCESSION NR: AP4044388 S/0195/64/005/004/0681/0688

AUTHOR: Dzis'ko, V. A.; Makarov, A.D.; Borisova, M.S.; Akimova, N.V.

TITLE: Effect of chemical composition and mode of preparation on the physicochemical and catalytic properties of oxide catalysts of complex composition. I Zirconium silicate catalysts

SOURCE: Kinetika i kataliz, v. 5, no. 4, 1964, 681-688

TOPIC TAGS: silica, zirconium oxide, zircon, catalyst, catalyst preparation, catalyst acidity, silicagel, oxide catalyst

ABSTRACT: The effect of the mode of preparation and thermal treatment on the catalytic activity of zirconium silicate (ZrO_2-SiO_2) catalysts prepared by different methods (impregnation and coprecipitation) was investigated. Tabulated experimental data obtained for samples based on sodium silicate, all annealed 4 hrs. at 500C, show that an increase in the pH of the medium from 5 to 8 during aging decreases the surface from 300 to 180 m^2/g, while the amount of chemisorbed sodium ions strongly increases. The ion-exchange washing of freshly precipitated gel permits the sodium ion content to be decreased to 0.006%. The effect of the zirconium dioxide content on the physicochemical properties of catalysts based on silicon ethylate was also investigated. After the addition of 0.1% ZrO_2 to silicagel, a

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ACCESSION NR: AP4044388

noticeable acidity appears. All catalysts containing more than 0.33% ZrO_2 ionize anthraquinone. At 1% ZrO_2 and below, the concentration of the acid centers increases proportionally to an increase in ZrO_2 content. For samples containing 1-25% ZrO_2 the increase in the concentration of acid centers proceeds slowly. With a further increase in the ZrO_2 content, the concentration of acid centers passes through a flat maximum, then decreases, the maximum concentration of acid centers on the surface being 1.3 μ equiv./m^2 at 14-57 mol.% ZrO_2. The reasons for the slight change in the number of acid centers on the surface when the ZrO_2 content is increased above 25% are given. The catalytic activity of the samples in the decomposition of isopropyl and ethyl alcohols was also studied in relation to the chemical composition of the samples. In the range of 10-25% ZrO_2, the specific activity is approximately constant. When the catalytic activity and the concentration of acid centers were plotted against ZrO_2 content in the catalyst, the activity varied in direct proportion to the concentration of acid centers on the surface. The activity is also affected by impurities from the air or alcohol, especially strongly in the case of samples with a low ZrO_2 content. The effect of thermal treatment on the catalytic properties of these catalysts was also investigated; the data are tabulated. It is concluded that the activity of ZrO_2-SiO_2 catalysts is determined by the number of acid centers on the surface and that the catalytic activity of the acid centers does not depend on the ratio of ZrO_2 to SiO_2, the mode of preparation or the thermal treatment. "The authors express

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ACCESSION NR: AP4044388

their gratitude to Yu. G. Sy*cheva, M. V. Kostyukova and L. Dronova for taking part in the experimental work." Orig. art. has: 3 figures, 4 tables and 3 formulas.

ASSOCIATION: Institut katalliza SO AN SSSR (Institute of Catalysis, SO AN SSSR); Fiziko-khimicheskiy institut im. L. Ya. Karpova (Institute of Physical Chemistry)

SUBMITTED: 10Oct63 ENCL: 00

SUB CODE: IC, GC NO REF SOV: 006 OTHER: 001

Card 3/3

ACCESSION NR: AP4044389 S/0195/64/005/004/0689/0695

AUTHOR: Dzis'ko, V. A.; Borisova, M. S.; Akimova, N. V.

TITLE: Effect of chemical composition and mode of preparation on the physicochemical and catalytic properties of oxide catalysts of complex composition. II. Aluminosilicate catalysts

SOURCE: Kinetika i kataliz, v. 5, no. 4, 1964, 689-695

TOPIC TAGS: alumina, silica, aluminosilicate, catalyst, silicic ethylate, ammonia, anthraquinone, catalytic activity, acidity, catalyst preparation, oxide catalyst, ampholite, catalyst acidity, cumol cracking

ABSTRACT: The effect of the mode of preparation on the acidity and catalytic properties of aluminosilicate catalysts prepared by different methods (impregnation and coprecipitation) was investigated; the data are tabulated. The measurements showed that aluminosilicate catalysts are strong acids: almost all the samples ionized anthraquinone, except those which had a very small number of acid centers. Treatment with moist nitrogen at 150C did not affect acidity. The ratio of the number of acid centers in hydrated and anhydrous samples, characterizing the degree of reaction of the aluminum oxide, depended on both their Al_2O_3 content and the mode of preparation. Treatment of impregnated silicagel with ammonia increased the

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ACCESSION NR: AP4044389

degree of combination of aluminum oxide. In a sample containing 5% Al_2O_3, all the aluminum oxide was combined with silicon dioxide and the degree of reaction remained higher than for samples not treated with ammonia. One result of the different degrees of reaction of aluminum oxide with silica is the different number of acid centers on the surface of the catalyst. Samples obtained by coprecipitation have the highest number of acid centers. On increasing the Al_2O_3 content from 0.1 to 1%, the number of acid centers increases proportionally to the Al_2O_3 content. A further increase in the Al_2O_3 content decreases the growth of acid centers. In the range of 20-75% Al_2O_3, equivalent to a change in SiO_2:Al_2O_3 ratio from 6.6 to 0.5, the concentration of acid centers remains constant, about 1 μequiv./m^2. At an Al_2O_3 content higher than 75% the concentration decreases. When the catalytic activity of synthetic samples was tested in the cracking of cumol, it was found that the catalytic activity of the acid centers in catalysts containing 1-90% Al_2O_3 is approximately constant and does not depend on the mode of preparation or the ratio of catalyst components. It is concluded that the velocity constant related to a single acid center is a characteristic value for the catalytically active component and can be used for the rational evaluation of substances having catalytic activity in processes of an acidic nature. "The authors thank M. V. Kostyukova for determining the acidity of the samples." Orig. art. has: 1 figure, 3 tables and 3 formulas.

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ACCESSION NR: AP4044389

ASSOCIATION: Institut kataliza SO AN SSSR (Institute of Catalysis, SO AN SSSR); Fiziko-khimicheskiy institut im. L. Ya Karpova (Institute of Physical Chemistry)

SUBMITTED: 07Jan64 ENCL: 00

SUB CODE: IC, GC NO REF SOV: 012 OTHER: 006

Card 3/3

DZIS'KO, V.A.; BORISOVA, M.S.; AKIMOVA, N.V.; MAKAROV, A.D.

Effect of the chemical composition and preparation techniques on the physicochemical ard catalytic properties of complex oxide catalysts. Part 1: Silica-zirconium catalysts. Kin. i kat. 5 no.4:681-688 Jl-Ag '64. (MIRA 17:11)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR i Fiziko-khimicheskiy institut imeni Karpova.

L 13290-66 EWT(m)/EWP(j)/T/ ETC(m) RM/DS/WW
ACC NR: AP6000323 SOURCE CODE: UR/0286/65/000/021/0011/0011

INVENTOR: Dzis'ko, V. A.; Borisova, M. S.; Krasilenko, N. P.; Tarasova, D. V. 39 B

ORG: none

TITLE: A method for producing silica gel. Class 12, No. 175925 [announced by the Institute of Catalysis, SO, AN, SSSR (Institut kataliza AN SO SSSR)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1965, 11

TOPIC TAGS: silica gel, ~~catalysis~~, CHEMICAL PRECIPITATION, AQUEOUS SOLUTION, GEL

ABSTRACT: This Author's Certificate introduces a method for producing silica gel by precipitating hydrogel from aqueous solutions of sodium silicate and an ammonium salt of a strong acid with intense mixing followed by filtering and washing of the resultant hydrogel. A granulated silica gel with high strength is produced by treating the hydrogel in a masticator or on rollers.

SUB CODE: 07/ SUBM DATE: 21Jun64/ ORIG REF: 000/ OTH REF: 000

jw

Card 1/1 UDC: 66.097.3.661.183.7

DZIS'KO, V.A.; BORISOVA, M.S.; KARAKCHIYEV, L.G.; MAKAROV, A.D.; KOTSARENKO, N.S.; ZUSMAN, R.I.; KHRIPIN, L.A.

Effect of chemical composition and the method of preparation on the physicochemical and catalytic properties of oxide catalysts of complex composition. Part 3: Silica-magnesia catalysts. Kin. i kat. 6 no. 6:1033-1040 N-D '65 (MIRA 19:1)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR. Submitted August 13, 1964.

BORODITSKAYA, R., inzh.; POPOV, V., inzh.; [illegible], E., inzh.

Local binding materials in large-panel construction in [illegible]. Zhil. stroi. no.2:14-15 '64. ([illegible])

BORISOVA, N.A., Cand Med Sci -- (diss) "State of the nervous system, and glutathione and choline-esterase content of the blood of petroleum workers of Bashkiriya." Ufa, 1958, 17 pp. (Bashkir State Med Inst im 15th Anniversary of VLKSM) 200 copies (KL, 32-58, 111)

BORISOVA, N.A.

8(2) PHASE I BOOK EXPLOITATION SOV/3393
SOV/11-M-113

Moscow. Aviatsionnyy institut imeni Sergo Ordzhonikidze

O dinamicheskikh svoystvakh sledyashchikh privodov; sbornik statey (On the Dynamic Properties of Servodrives; Collection of Articles) Moscow, Oborongiz, 1959. 78 p. (Series: Its: Trudy, vyp. 113) 6,100 copies printed.

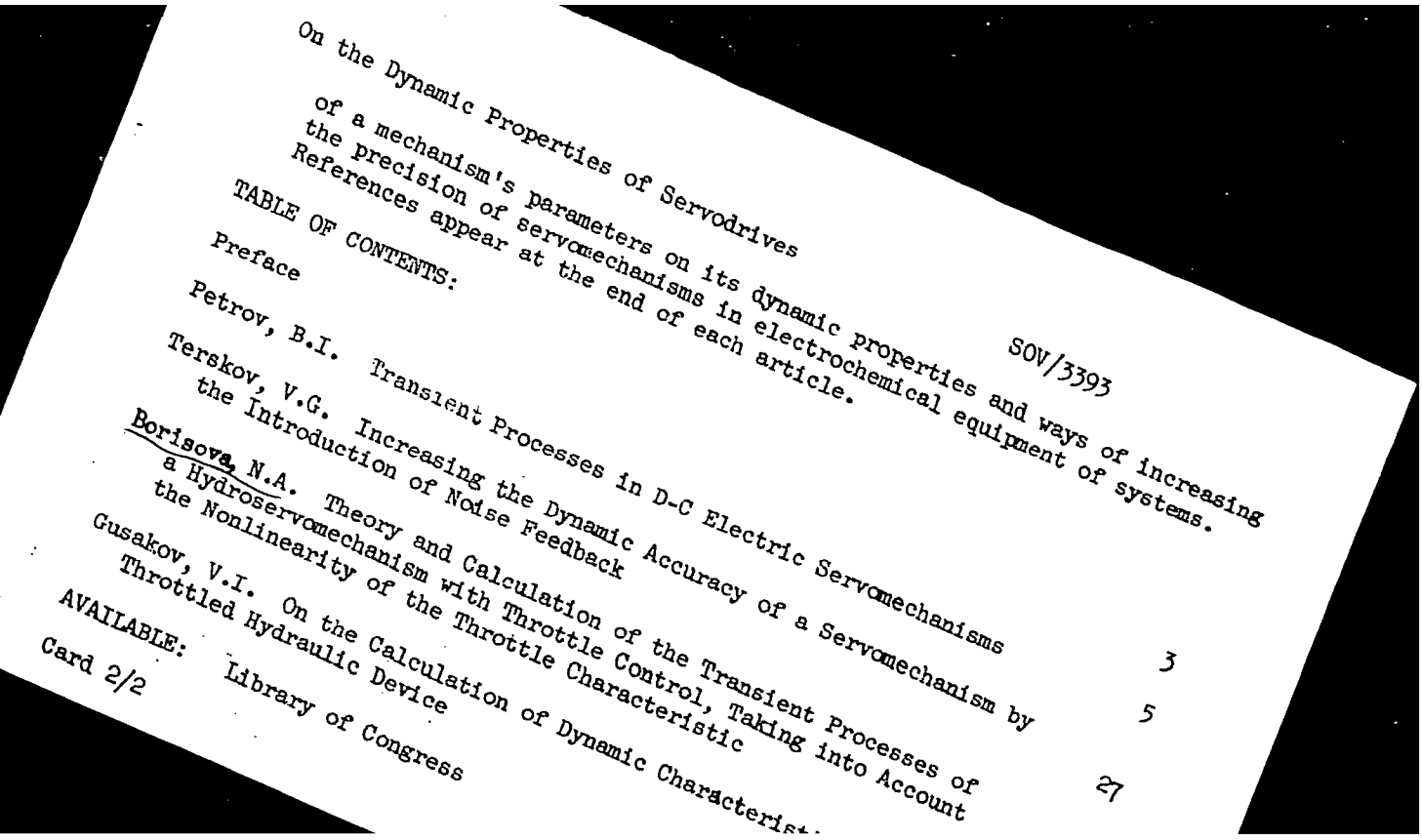
Sponsoring Agency: USSR. Ministerstvo vysshego obrazovaniya

Ed. (Title page): S.V. Kostina, Candidate of Technical Sciences, Docent; Ed. (Inside book): S.I. Bumshteyn, Engineer; Ed. of Publishing House: S.I. Vinogradskaya; Tech.: V.I. Oreshkina; Managing Ed.: A.S. Zaymovskaya, Engineer.

PURPOSE: This book is intended for engineers working in the field of electric and hydraulic servomechanisms, and for students taking courses at electronic and aeronautical institutions of higher learning.

COVERAGE: This book contains four articles on problems of stability and dynamic accuracy of electric and hydraulic servomechanisms. A study is made of the effect

Card 1/2



On the Dynamic Properties of Servodrives SOV/3393

of a mechanism's parameters on its dynamic properties and ways of increasing the precision of servomechanisms in electrochemical equipment of systems.
References appear at the end of each article.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

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TOLMACHEV, Aleksandr Innokent'yevich, prof.; BORISOVA, N.A., kand. biol. nauk

[General directions for plotting maps of the areas of medicinal plants and the distribution of their concentrations. Methodical directions for estimating the resources and plotting maps of the distribution of medicinal plants]Obshchie ukazaniia o poriadke provedeniia raboty po sostavleniiu kart arealov lekarstvennykh rastenii i razmeshcheniia ikh zaroslei. Metodicheskie ukazaniia po uchetu zapasov i sostavleniiu kart rasprostraneniia lekarstvennykh rastenii. [By]N.A.Borisova. Leningrad, Leningr. khimiko-farmatsevticheskii in-t, 1961. 33 p. (MIRA 16:1)

1. Kafedra farmakognozii i botaniki Leningradskogo khimiko-farmatsevticheskogo instituta Ministerstva Zdravookhraneniya RSFSR (for Borisova). 2. Zaveduyushchiy kafedroy vysshikh rasteniy Leningradskogo Gosudarstvennogo Universiteta (for Tolmachev). (Mathematics)

BORISOVA, N.A.

Mycotrophy of tree and shrub species of the sandy lands of Urda.
Bot.zhur.41 no.6:876-880 Je '56. (MLRA 9:10)

1.Institut lesa Akademii nauk SSSR, Moskva.
(Urda District--Mycorhiza)

USSR/Cultivated Plants - Medicinal. Essential Oil-Bearing. Toxins. M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82565

Author : Borisova, N.A.
Inst : -
Title : On Introducing of the Yellow Gentian (Gentiana lutea L.) into Production Culture

Orig Pub : Botan. zh., 1957, 42, No 3, 464-472

Abstract : The roots of yellow gentian, rich in active elements, are used in all countries as medicinal raw material and in the liqueur and vodka industry. Data are cited on the cultivation of yellow gentian in the nursery of the Institute of Botany of the Academy of Sciences of USSR and on the experimental plots under the conditions of Leningradskaya Oblast', which has been carried on successfully for 26 years. Reported are the most favorable conditions for growing, data on the biology of development,

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BORISOVA, N.A.

Morphological and biological characteristics of yellow gentian (Gentiana lutea L.) Uch. zap. Ped. inst. Gerts. 179:21-32 '58. (MIRA 16:5)

(Gentians)

BORISOVA, N. A., Candidate Biol Sci (diss) -- "The biology of gentian and the possibility of introducing its cultivation in Leningrad Oblast". Leningrad, 1959. 17 pp (Acad Sci USSR, Botanical Inst im V. L. Komarov), 150 copies (KL, No 25, 1959, 130)

BORISOVA, N.A.

Intorudcing the yelloy gentian. Trudy Bot.inst.Ser.6 no.7: 338-341 '59. (MIRA 13:4)

1. Gosudarstvennyy pedagogicheskiy insti ut im. A.I.Gertsena, Leningrad.
(Leningrad--Gentians)

BORISOVA, N.A.

Formation of the morphological structure of Gentiana lutea L. Trudy Len. khim.-farm. inst. 12:311-317 '61. (MIRA 15:3)

1. Kafedra farmakognozii i botaniki Leningradskogo khimiko-farmatsevticheskogo instituta.
(GENTIANS)

BORISOVA, N.A.; YATSENKO-KHMELEVSKIY, A.A., prof.

Distribution and resources of medicinal plants in Priozers'- District, Leningrad Province. Trudy Len. khim.-farm. inst. no.17:11-23 '23 '64. (MIRA 18:1)

BORISOVA, N.A., metodist

Preparation and use of grass flour. Inform. biul. VDNKH no.10:21-23 '63. (MIRA 18:5

1. Pavil'on "Korma" na Vystavke dostizheniy narodnogo khozyaystva SSSR.

BORISOVA, N.A., kand.tekhn.nauk

Static and dynamic characteristics of a hydraulic drive in a system of "nozzle-flap and hydraulic cylinder." Trudy MAI no.134:78-88 '61. (MIRA 14:8)
(Hydraulic control)
(Airplanes--Hydraulic equipment)

40598

S/535/62/000/146/002/007
I011/I211

AUTHOR: Borisova, N. A., Candidate of Technical Sciences

TITLE: Mechanical characteristics of a hydraulic servomechanism with a throttle regulation of velocity

SOURCE: Moscow. Aviatsionnyy institut. Trudy, no. 146, 1962, Avtomatizirovannyye privody i ikh elementy. 36–42

TEXT: The expenditure through the throttling slot in the valve is calculated. The pressure drops on the slots, in the pipes and that caused by the friction of the power piston are included in the calculations. It is seen that the expenditure decreases with increasing load, which is explained by the decrease in the pressure drop on the slot (throttling effect). The expenditure characteristic is essentially nonlinear: there is no flow through the slot when the pressure drop on it is zero, no matter how wide is the slot. The power piston velocity as a function of load at constant valve-throttle-slot width is the mechanical characteristic of the valve-hydraulic cylinder system. This characteristic is calculated and drawn for a given numerical example. The fall in the chracteristics with an increase in load is explained by the throttling effect and leakage in the cylinder. The main effect is the throttling one. To get more rigid mechanical characteristics one has to increase the pressure of the power source and decrease the hydraulic resistance of the pipes and friction in the system. The regulating charcteris-

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tics (no-load velocity vs. width of the throttling slot) are calculated and drawn. From this the mean value of the amplification factor can be found. This factor can be increased by increasing the power source pressure or by constructing the throttling slot so as to have bigger expenditure through it for the same displacement of the valve. The insenitivity-region width is calculated. It is found to depend on the power-piston load. There are 5 figures.

40599

S/535/62/000/146/003/007
I011/I211

26.2195 also 2214

AUTHOR: Borisova, N. A., Candidate of Technical Sciences

TITLE: The influence of friction in the hydraulic cylinder, fluid compressibility and leakage on the transients and time lag in a valve — hydraulic cylinder system

SOURCE: Moscow. Aviatsionnyy institut. Trudy, no. 146, 1962, Avtomatizirovannyye privody i ikh elementy, 43–48

TEXT: The following assumptions are made: (1) the fluid volume in the connecting pipes is negligible, (2) the hydraulic resistance in the cylinder can be neglected, (3) with the valve in a neutral position the pressures on the two sides of the piston are equal. Using the equations of continuity and compressibility as well a those of the expenditure through the throttling slot and the motion of the cylinder, a set of four first order differential equations that describes the transients in the system is derived. The time lag increases: when the volume of the liquid in the hydraulic cylinder is increased; the coefficient of compressibility is increased; the friction force is increased. The time lag is almost doubled when the friction force is doubled. The valve-hydraulic cylinder system has low sensitivity on the starting region of its motion. This is explained by the significant volume of the compressible fluid. There are 3 figures.

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40600

S/535/62/000/146/004/007

I011/I211

AUTHOR: Borisova, N. A., Candidate of Technical Sciences

TITLE: Time lag in a hydraulic servomechanism with a throttle regulation

SOURCE: Moscow, Aviatsinonyy institut. Trudy, no. 146, 1962, Avtomatizirovannyye privody i ikh elementy, 49–57

TEXT: A method for the evaluation of the time lag in a valve-piston system, caused by the compressibility of the fluid and by dry friction of the piston in the cylinder, is described. The pressure changes in a constant volume cavity are described by a set of three equations: equation of state of the fluid; weight balance equation; equation of the expenditure through the throttling slot. It is shown that for a step change in the valve the pressure on one side of the piston increases with time by the square law till it reaches the pressure of the power source and remains constant, while that on the other side of the piston decreases by the same law until it reaches the pressure of the sink and remains constant. The piston starts moving when the pressure drop across it reaches the pressure of the friction force. An equation for the time lag is thus arrived at. It is seen that with all other conditions equal the time lag is proportional to the volume of fluid in the mechanism and inversely proportional to the reduced expenditure coefficient. There is a numerical example. When the initial pressures on the two faces of the piston approaches the average between the pressures of the power source and sinks, the maximum time lag occurs in the vicinity of the central position of the piston. When the initial pressures approach those of the power source or sink, the maximum time lag occurs in one of the extreme positions of the piston. There are 5 figures.

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BORISOVA, Ninel' Aleksandrovna; KOSTIN, S.V., kand. tekhn. nauk, dots., red.

[Laboratory manual on automatic hydraulic devices and drives; statics] Rukovodstvo k laboratornym rabotam po gidroavtomaticheskim ustroistvam i privodam; statika. Moskva, Mosk. aviatsionnyi in-t, 1962. 51 p. (MIRA 17:10)

BORISOVA, N.A., metodist

Protein feed of a high nutritive value from industrial wastes. Inform. biul. VDNKH no.11:21-22 N '63 (MIRA 18:1)

1. Pavil'on "Korm" na Vystavke dostizheniy narodnogo khozyaystva SSSR.

BORISOVA, N.A.

Using coordinate paper to accelerate drawing and graph work.
Vych. i org.tekh. v stroi. i proekt. no.3:73-76 '64.
(MIRA 18:10)

1. Gosudarstvennyy institut tipovogo i eksperimental'nogo proyektirovaniya i tekhnicheskikh issledovaniy Gosstroya SSSR.

L 14361-65 EWT(m)/EWP(w)/EWA(d)/EWP(t)/EWP(b) Pad SSD/AFWL/ASD(f)-2/ ASD(a)-5/ASD(m)-3/AFETR/RAEM(c)/ESD(gs)/ESD(dp)/ESD(t) MJW/JD/HW

ACCESSION NR: AR4045877 S/0137/64/000/007/0034/0034 I I

SOURCE: Ref. zh. Metallurgiya, Abs. 7I217 B

AUTHOR: Dunayev, F. N.; Yakovlev, G. P.; Borisova, N. B.

TITLE: Internal friction hysteresis in nickel 18 27

CITED SOURCE: Sb. Relaksats. yavleniye v met. i splavakh. M., Metallurgizdat, 1963, 208-213

TOPIC TAGS: internal friction, hysteresis, hysteresis loop, nickel, oscillation, shear modulus, stress, annealing, magnetic field

TRANSLATION: Internal friction hysteresis, the period of mechanical oscillation T, and the shear modulus arising with a cyclical change in the amplitude of stress have been investigated in pure electrolytic nickel Type N000 as a function of preliminary annealing temperature. Measurements were made on a torsion pendulum type instrument provided with electronic means for recording T and the logarithmic decrement, in samples with a diameter of 0.52 mm and a length of 300 mm, at a frequency of approximately 1.5 hertz,

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in the absence of a magnetic field, and in a magnetic field with a strength up to 1400 oersteds. The magnetic hysteresis loops were measured with an astatic magnetometer. The samples were previously annealed under vacuum at temperatures from 200 to 1000° for one hour; after each annealing internal friction and T were measured as a function of the amplitude of the oscillations and the applied magnetic field. If the sample is previously demagnetized by an alternating current and a direct magnetic field is intensified starting from a magnitude of zero, in weak magnetic fields the internal friction and T remain approximately constant and then start to increase with an increase in the magnetic field and attain a maximum. The increase in internal friction and T is hypothetically connected with a decrease in impediments to the displacement of boundaries and energy barriers which hinder the rotation of the vectors of spontaneous magnetization. With a further increase in the magnetic field in the opposite direction, the magnitudes of internal friction and T, starting with a maximum field, have somewhat greater values than on the magnetization curve, but at zero magnetic field there exist certain residual values of internal friction and T compared to the demagnetized state. With an increase in the magnetic

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L 6888-65 EWT(m)/EWP(q)/EWP(b) SSD/ASD(m)-3/AFWL JD

ACCESSION NR: AR4044220 S/0137/64/000/006/I042/I043

SOURCE: Ref. zh. Metallurgiya, Abs. 61247

AUTHOR: Dunayev, F. N.; Malev, N. S.; Borisova, N. B.

TITLE: Influence of thermomagnetic treatment on the internal friction of Perminvar and 66-Permalloy

CITED SOURCE: Sb. Relaksats. yavleniya v met. i splavakh. M., Metallurgizdat, 1963, 214-220

TOPIC TAGS: thermomagnetic treatment, internal friction, shear modulus, alloy

TRANSLATION: Investigates changes, introduced by thermomagnetic treatment, in the dependence of the internal friction of Perminvar and 66-Permalloy on temperature and magnetic field. The internal friction and shear modulus were measured with the help of a torsional pendulum on wire samples 0.4 - 0.5 mm in diameter and 300 mm long at a frequency of 1 cps. All samples were annealed at 100° for 2 hours, after which they were subjected to different treatment: heating to 650°, holding for 1 hour, and subsequent fast (100 deg/min) or slow (100 deg/hr) cooling. Thermomagnetic

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treatment was done under both conditions of cooling: 66-Permalloy was cooled in magnetic field of 1 and 3 oersteds from 650°, and Perminvar - in a field of 50 oersted from 770°. After every treatment there was measured the dependence of internal friction and period of oscillations on temperature in the demagnetized state and in the presence of a field, and also the dependence of the given characteristics on the magnitude of the magnetic field at room temperature. Thermomagnetic treatment greatly increases the internal friction of 66-Permalloy at temperatures of 0 - 400°; the greater the magnetic field applied during cooling, the greater the increase of internal friction. The internal friction of a sample cooled without a field first decreases with rising temperature, attains a minimum at ~200°, and then increases. After thermomagnetic treatment, on the curve of the temperature dependence of internal friction there appears a clear maximum at ~100°, which increases with an increase of the effect of thermomagnetic treatment (with an increase of the field); here the minimum on the internal-friction curves is displaced toward higher temperature. "Ferromagnetic" losses are associated basically with magnetoelastic hysteresis, inasmuch as internal friction manifests

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ACCESSION NR: AR4044220

a linear amplitude dependence. Analogous results are obtained for samples of Perminvar. Maximum internal friction at 100° is caused entirely by irreversible changes of domain structure during oscillations of the sample, while the maximum at 250° is evidently of a relaxation nature and is connected with the presence of impurities. After thermomagnetic treatment, the period of oscillation increases as the internal friction, but the dependence of it on the field does not become monotonic. Bibliography: 6 references.

SUB CODE: MM, AS ENCL: 00

Card 3/3

SKAVRONSKAYA, A.G.; BORISOVA, N.B.; POKROVSKIY, V.N.; NIZOVTSEVA, V.N.

Mechanism of the inhibiting effect of 5-bromouracil on the division of bacterial cells. Zhur.mikrobiol., epid. i immun. 42 no.12:92-97 D '65. (MIRA 19:1)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

BORISOVA, N. B

Separation and determination of keto acids in wine by the method of partition chromatography on paper. I. A. Egorov and N. B. Borisova (A. N. Bakh Biochem. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 104, 433-5 (1955).—Keto acids were sepd. and detd. in wine by conversion to 2,4-dinitrophenylhydrazones, followed by chromatography on paper in 40:10:50 BuOH:EtOH:H_2O. Treatment of the paper with *N* NaOH gave red-brown spots whose intensity gives a measure of the concn. of the keto acids photometrically. Pyruvic and ketoglutaric acids were thus detd. in various wine and champagne samples.

G. M. Kosolapoff

(1)

BORISOVA, N.B.

USSR/Chemical Technology - Chemical Products and Their Application. Fermentation Industry, I-27

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63606

Author: Yegorov, I. A., Borisova, N. B.

Institution: None

Title: Determination of Ketonic Acids in Wine

Original Periodical: Vinodeliye i vinogradarstvo SSSR, 1956, No 2, 23-25

Abstract: Qualitative and quantitative determination of ketonic acids was done by paper chromatography. To 10 ml of the wine were added, in a separatory funnel, one to 2 ml 0.4% solution of 2,4-dinitro phenyl hydrazine in 2 N HCL, mixed, held for 45 minutes, added 5 ml ether to remove the formed hydrazones, mixed and ether layer separated. Extraction with ether repeated 5 times, ether extract evaporated, residue dried in vacuum desiccator, dissolved in 3 ml 2 N NH_4OH, repeatedly washed with ether until no coloration is produced by an addition of NaOH, and 0.1 ml placed on paper using as solvent in

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USSR/Chemical Technology - Chemical Products and Their Application. Fermentation Industry, I-27

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63606

Abstract: descending chromatography a mixture of butanol, ethanol and water (40:10:50). For quantitative determination areas of separated hydrazones of the acids are cut out of the chromatogram, shredded and placed in centrifugation test tubes. Added 4 ml NaOH solution, shaken, centrifugated after 10 minutes for 20 minutes at 3,000 rpm. After 45 minutes the clear solution is used for colorimetric determinations and content of ketonic acids in wine is calculated by means of a calibration curve plotted on the basis of determination of chemically pure reagents. By this procedure were detected and determined in champaign: pyroracemic acid 15-18.5 mg/l and ketoglutaric acid 30-34 mg/l, and in wine, respectively, 7.5-23.5 and 17-36.5 mg/l. Spectrophotometric investigations confirmed the results of chromatographic determinations.

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BORISOVA, N. B.

YEGOROV, I.A.; BORISOVA, N.B.

Aromatic aldehydes of brandy. Biokhim. vin. no.5:27-37 '57.
(MLRA 10:6)

1. Institut biokhimii im. A.N. Bakha An SSSR.
(Brandy) (Aldehydes)

YEGOROV, I.A.; BORISOVA, N.B.

Separation and quantitative determination of keto acids in wine by paper chromatography. Biokhim. vin. no.5:253-258 '57. (MLRA 10:6)

1. Institut biokhimii im. A.N. Bakha AN SSSR.
(Wine and wine making--Analysis) (Pyruvic acid)
(Glutaric acid) (Chromatographic analysis)

BORISOVA, N.B., nauchnyy sotrudnik

Winter rape sown in summer. Zhivotnovodstvo 21 no.6:70 Je '59.
(MIRA 12:8)

1. Dedinovskaya opytnaya stantsiya po poymennomu lugovodstvu.
(Rape(Plant))

SKAVRONSKAYA, A.G.; FRADKIN, G.Ye.; BORISOVA, N.B.; ZAMCHUK, L.A.; GOL'DINA, L.R.

Influence of the intensity of nucleic acid and protein synthesis on lethal and mutagenetic effects of γ-irradiation. Radiobiologiia 3 no.4:582-586 '63. (MIRA 17:2)

1. Institut epidemiologii i mikrobiologii im. akad. N.F. Gamaleya AMN SSSR, Moskva.